

Claims:

1. A system for transferring synchronous and asynchronous signals between broadband access devices, said system comprising:

- a) at least two bus users;
- b) a data bus coupled to said at least two bus users;
- c) a clock bus coupled to said at least two bus users; and
- d) at least one control line coupled to said at least two bus

users, wherein

data is transferred between said at least two bus users over said data bus according to a repeating bus frame having a plurality of slots, at least some of said plurality of slots being associated with asynchronous data streams and said at least one control line being asserted when valid data from one of said asynchronous data streams appears in a slot of said repeating bus frame.

2. A system according to claim 1, wherein:

said repeating bus frame has three hundred thirty-six slots and said clock bus provides a clock signal of approximately 25 MHz.

3. A system according to claim 1, wherein:

said repeating bus frame has one thousand eight slots and said clock bus provides a clock signal of approximately 75 MHz.

4. A system according to claim 1, wherein:

said at least one control line includes a start of frame indicator which is asserted at the first slot of said repeating bus frame.

5. A system according to claim 1, wherein:

at least one of said asynchronous data streams includes a repeating data frame, and

said at least one control line includes a data frame indicator which is asserted when a slot in said repeating bus frame includes a start of frame indicator for said repeating data frame.

6. A system according to claim 5, wherein:

said data bus transfers data eight bits at a time,

said start of frame indicator for said repeating data frame is one bit, and

said at least one control line includes a position indicator for indicating which of said eight bits is said one bit when said data frame indicator is asserted.

7. A system according to claim 1, wherein:

one of said at least two bus users is coupled to a SONET network and another of said at least two bus users is coupled to a non-SONET network.

8. A system according to claim 7, wherein:
said bus user coupled to the SONET network is a bus master.
9. A system according to claim 7, wherein:
said bus user coupled to the non-SONET network is a bus master.
10. A method for transferring synchronous and asynchronous signals between broadband access devices, said method comprising:
 - a) generating a repeating bus frame having a plurality of slots;
 - b) associating at least some of said slots with asynchronous data streams;
 - c) transferring data between the broadband access devices during the repeating bus frame; and
 - d) asserting a first control line when valid data from one of the asynchronous data streams appears in a slot of the repeating bus frame.
11. A method according to claim 10, wherein:
the repeating bus frame has three hundred thirty-six slots and repeats at a rate of approximately 25 MHz.
12. A method according to claim 10, wherein:
the repeating bus frame has one thousand eight slots and repeats at a rate of approximately 75 MHz.

13. A method according to claim 10, further comprising:

e) asserting a second control line at the first slot of the repeating bus frame.

14. A method according to claim 10, further comprising:

e) asserting a second control line when a slot of the repeating bus frame includes a framing signal of an asynchronous data stream.

15. A method according to claim 14, wherein:

each slot of the repeating bus frame has eight bits,

the framing signal of an asynchronous data stream is one bit,

and

said step of asserting a second control line includes asserting a position indicator for indicating which of eight bits in the slot is the one bit framing signal.